



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Misael Cabrera
Director

via e-mail

March 16, 2020
FPU20-217

Ms. Catherine Jerrard
AFCEC/CIBW
706 Hangar Road
Rome, NY 13441

RE: WAFB – ADEQ Comments – *Draft, Soil Vapor Extraction System And Other Activities, 2017 Annual Performance Report, Former Liquid Fuels Storage Area, Site ST012, Former Williams Air Force Base, Mesa, Arizona*; prepared for Air Force Civil Engineer Center [AFCEC/CIBW], Lackland AFB, TX; prepared by Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec), Phoenix, AZ; document dated November 29, 2019.

Dear Ms. Jerrard:

Arizona Department of Environmental Quality (ADEQ) Federal Projects Unit (FPU) and ADEQ contractor UXO Pro, Inc. reviewed the above referenced document. ADEQ's comments are provided below.

General Comments

1. ADEQ appreciates the information breadth and depth presented within the 2017 annual performance report. ADEQ understands that the November 2019-dated draft document recounts generally 2017 calendar year activities. ADEQ notes this 2017 draft-version report was released over 22 months after the reporting period ended. The ability to comprehend actions and relate concerns is hindered by reports released over a year after the action reporting period. Regulatory concurrence may be limited due to the inability to receive timely clarification and implement actions.
2. ADEQ suggests the document include text discussing evaluations and investigations regarding contaminant vapor intrusion into nearby buildings.
3. ADEQ believes Appendix K could be better presented as a standalone document. ADEQ recommends providing "Appendix K" as a separate report for the Administrative Record. Specific Comments are provided for *Draft Annual 2017 Groundwater Monitoring Report, Former Liquid Fuels Storage Area, Site ST012, Former Williams Air Force Base, Mesa, Arizona*; prepared for AFCEC/CIBW, Lackland AFB, TX; prepared by Amec, Phoenix, AZ; document dated November 4, 2019.

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Specific Comments:

1. Bound cover. Please clarify the report preparer. The bound copy cover lists the preparer as *Amec Environment & Infrastructure, Inc.* However, the inside title page lists the preparer as *Amec Foster Wheeler Environment & Infrastructure, Inc.*
2. Section 1.2 *Conceptual Site Model*, Page 1-2, Line 185. Please add a statement that the water table rise in 2017 was approximately one foot.
3. Section 1.3.1 *SVE Remedy*, Page 1-4, Line 229. Please add a brief paragraph summarizing any efforts assessing contaminant vapor intrusion into buildings on or near the site.
4. Section 2.1.3 *SVE Equipment Maintenance Activities*, Table 2-5. The table indicates the SVE system was shut down four times in December 2017 with the reason described as “Flame Failure, Optimization.” Please describe the optimization associated with these shutdowns.
5. Section 2.2.1.1 *SVE Vapor Sample Analysis*, Page 2-10, Line 449. Please explain why the closed SVE wells were not monitored in the third and fourth quarters as prescribed in Table 2-3.
6. Section 2.2.3 *Deviations from the Operation and Maintenance Manual*, Page 2-30, Line 595. Please add to the list of deviations from the SVE OM&M Manual that monitoring was not performed in closed SVE wells in the third and fourth quarter.
7. Section 2.3.1 *Mass Removal and Destruction Efficiency*, Page 2-31, Line 661. Please edit the text as follows to describe an additional possible source of methane, “Given that prior to SEE CH₄ concentrations in the vapor collected by SVE were much lower, the collection of CH₄ by the SVE appears related to SEE and suggests that the CH₄ was likely generated in the saturated zones below the SVE system or in deep vadose zone soils heated by upward thermal conduction from the steam zone.”
8. Section 2.3.2 *Notable Trends*, Page 2-34, Line 699. Please add a discussion on vapor extraction rates from the deep SVE screens before SEE, after SEE, and resulting from operational changes relevant to mass removal. Describing the changes in flow with the changes in vapor concentrations provides context for assessing increases and decreases in mass extraction rate from the deep vadose zone.
9. Section 2.3.2 *Notable Trends*, Page 2-34, Lines 700-701. Have increases or decreases in vapor extraction rates from deep SVE wells contributed to the general decrease in the quarterly average mass removal rate of TPH over time?
10. Section 2.3.3 *SVE Optimization Summary*, Page 2-36, Line 755. The paragraph makes general statements about opening and closing wells for optimization. Please be more specific in this section regarding efforts to increase mass extraction rates from individual screens. The data in Appendix B suggest an effort was made in the fourth quarter to increase flow from several screens resulting in increases in mass extraction rates as compared to the third quarter as illustrated in Graph 2-2.
11. Section 3.0 *Other Site Activities*. Please correct the following inconsistencies and clarify waste disposal activities conducted during the reporting period:
 - Section 3.1.2 *Site Temperature Monitoring*, page 3-5, lines 818-819. Text states that all temperature monitoring points had temperatures above the maximum value of 150° F approved for disposal in the City of Mesa sewer.
 - Section 3.3 *Waste Disposal* reports no waste disposal activities occurred during the reporting period.
 - Section 3.4.2 *Permit Compliance* indicates wastewater was discharged to the City of Mesa according to the approved permit.
 - Section 3.4.2 *Permit Compliance* further states that the maximum discharge temperature was not exceeded during this reporting period.
12. Section 3.1.3.4 *Fixed Laboratory Perimeter Well Groundwater Analytical Results*, Pages 3-16 through 3-18. Please identify the table found on pages 3-16 through 3-18. If table found pages 3-16 through 3-18 is Table 3-3, then please add a header to the pages identifying the table as Table 3-3.

13. Appendix E *SVE Historical Hydrocarbon Concentration Data*, Figure E-3 *SVE01 Middle*. The inset graph has the same x-axis range as the larger graph; please reduce the date range on the inset graph for clarity.
14. Appendix E *SVE Historical Hydrocarbon Concentration Data*, Figure E-4 *SVE01 Deep*. The inset graph does not appear to provide the same data as the larger graph; please check.
15. Appendix E *SVE Historical Hydrocarbon Concentration Data*, Figure E-7 *SVE02 Deep*. The inset graph does not appear to provide the same data as the larger graph; please check.
16. Appendix E *SVE Historical Hydrocarbon Concentration Data*, Figure E-9 *SVE03 Middle*. The inset graph has the same x-axis range as the larger graph and cuts off data; please reduce the date range on the inset graph for clarity.
17. Appendix E *SVE Historical Hydrocarbon Concentration Data*, Figure E-10 *SVE03 Deep*. The inset graph has the same x-axis range as the larger graph and cuts off data; please reduce the date range on the inset graph for clarity.
18. Appendix H *Perimeter Groundwater Analytical Reports*. TestAmerica Lab report 280-105010-1 is missing from the appendix.
19. Appendix K *Annual Groundwater Monitoring Report*
[Draft Annual 2017 Groundwater Monitoring Report, Former Liquid Fuels Storage Area, Site ST012, Former Williams Air Force Base, Mesa, Arizona; prepared for AFCEC/CIBW, Lackland AFB, TX; prepared by Amec, Phoenix, AZ; document dated November 4, 2019]
 - a. Section 3.1.1 *Groundwater Elevation Measurements*, Page 3-1, line 346. Please change CZ03 to C03.
 - b. Section 4.1.1 *Groundwater Elevation and LNAPL Measurements*, Page 4-1, lines 664-665. Please include a statement identifying the time period over which the cited 1,060 gallons was removed.
 - c. Table 3-1 *ST012 November 2017 Groundwater Elevation Data*. The last column heading and the boxes below the table should be revised from 2015 to 2016.
 - d. Table 3-2 *ST012 LNAPL Detections and Volumes Bailed/Removed in 2017, 2016, 2014, 2013, and 2012¹*. Please include 2017 LNAPL removal data.
 - e. Figure 3-7 *ST012 LSZ Benzene Concentrations in Groundwater November 2017*. Benzene concentration contours north of wells W36 and LSZ44 should be dashed.

Closure

ADEQ may add or amend comments, evaluations, and concurrence if evidence to the contrary of our understanding is discovered; if received information is determined to be inaccurate; if any condition was unknown to ADEQ at the time this document was delivered; if other parties bring valid concerns to our attention; or site conditions are deemed not protective of human health and the environment within the scope of this Department.

Thank you for the opportunity to comment. Should you have any questions regarding this correspondence, please contact me by phone at (602) 771-4121 or e-mail miller.wayne@azdeq.gov.

Sincerely,



Wayne Miller

ADEQ Project Manager, Federal Projects Unit

Remedial Projects Section, Waste Programs Division

recipients:

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ADEQ Reading and Project File

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